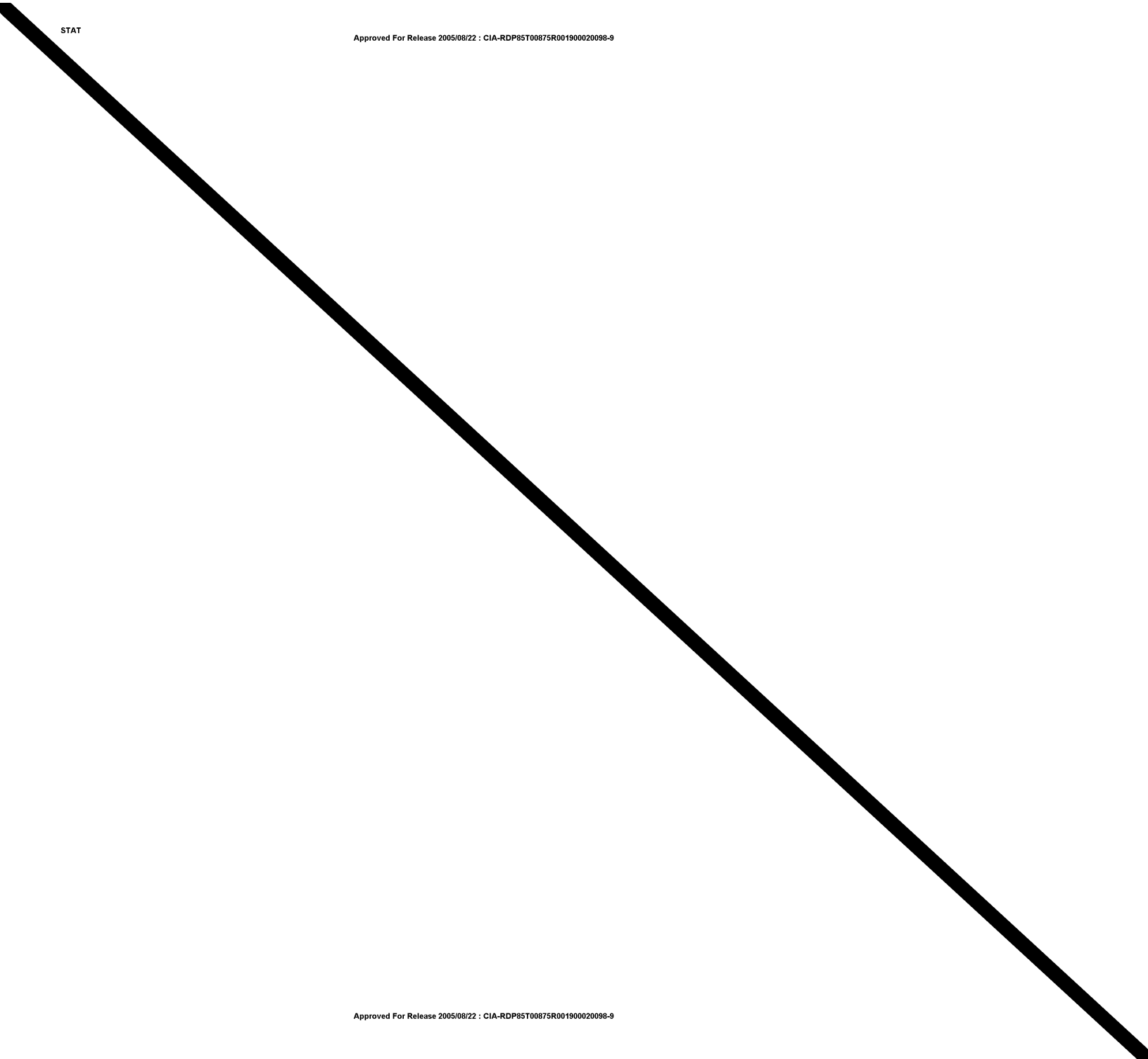

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STAT [redacted] STAT [redacted]

MEMORANDUM FOR: Mr. Donald Born
[illegible]
Room 5253
New State

In your request, attached are two copies of India's Steel Industry, [redacted] STAT

[redacted] STAT

26 April 1974
(DATE)

101 [illegible]

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Distribution: (2-6130)
Orig. & 1 - Addressee
1 - D/OER

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India's Steel Industry

1. The Indian steel industry is composed of six large steel mills and several small plants which produced over 6 million metric tons of steel ingots in FY 1973[1]/ (see Table 1). Although this represents 80% of India's steel consumption, it is only 1% of world production. Steel is the country's largest capital investment in industry and second only to cotton textiles in its contribution to GNP.

2. Although India has had a modern steel industry for more than half a century, major steps to increase steel output were not taken until the mid-1950's. At that time, the country's two large private sector mills, Tata Iron and Steel Co. (TISCO) and Indian Iron and Steel Co. (IISCO), were permitted to expand and construction began on three public sector mills at Bhilai, Durgapur, and Rourkela, with Soviet, British, and West German aid, respectively. During the 1960's, the capacity of the public sector plants was expanded and construction was begun on a fourth public sector mill at Bokaro with Soviet assistance. The Bokaro plant began operation in early 1974 raising total steel capacity from 9.3 million tons to 11.0 million tons and raising the public sector contribution from 65% to 70% (see Table 2).

1. Fiscal year begins 1 April of stated year.

3. Since the mid-1960's, labor problems and the government's failure to permit sufficient imports of steel-making equipment to meet the rapid rise in domestic demand have disrupted the industry and resulted in domestic steel shortages. Steel output has lagged considerably behind capacity. Despite a large increase in capacity, steel production in FY 1973 was 9% below the peak FY 1966 level. Declining production, poor management and maintenance, and increasing operating costs at the IISCO facility led to a government takeover of its management in July 1972. Two of the country's three operating public steel plants, however, operated at similar under-capacity levels for the last few years.

4. To ease the acute domestic steel shortage, the government began restricting exports and liberalizing imports of steel in 1970. Steel exports, which had increased from about 1 million tons in FY 1966 to a peak of 2.3 million tons in FY 1968, declined in FY 1971 to 591,000 tons, primarily iron and ferro alloys (see Table 3). Steel imports, on the other hand, tripled between FY 1969 and FY 1971 when they reached 1.3 million tons. In FY 1972 Japan supplied 34% of Indian steel imports, the UK 22%, and West Germany 11%. Exports in the same year went largely to Japan and the USSR.

5. The efficiency of steel production varies widely between mills. In FY 1973 IISCO and Durgapur operated at 43%

and 45% of capacity, respectively, compared to 85% at TISCO and 84% at Bhilai. The major causes for under-utilization of capacity are shortages of power and coking coal, poor management, poor maintenance practices, transport bottlenecks, and labor disputes. As a result, man-hours used to produce a ton of steel at Durgapur and IISCO are double that for Bhilai and TISCO.

6. India has adequate reserves of all basic raw materials used in the steel industry -- coal, iron ore, limestone and manganese. Nonetheless, the coking coal industry, nationalized in October 1971, has failed to maintain regular supplies to the steel mills. Coking coal production was lower in FY 1972 than in any of the previous six years (see Table 4). Part of the blame rests with the railroad's failure to provide enough railcars. Earlier this year, steel mills were forced to curtail production to 20% to 40% of capacity for several weeks because of coal shortages caused by a rail strike. But even when transport was available, coal supplies have been disrupted by managerial and labor problems at the mines. The opening of the Bokaro steel mill in early 1974 put an extra demand on coal supplies causing all mills to operate with minimum coking coal stocks. Shortages of non-coking coal have also affected steel output by causing periodic shutdowns of power plants.

After the nationalization of coal, nobody offered the railway officials the bribes (necessary to get railcars allotted for coal movements) so coal just UNCLASSIFIED does not move.

7. India not only is self-sufficient in iron ore but also is a major exporter of iron ore. Unlike coal, iron ore production, which is mainly in the private sector, has increased rapidly during the last decade (see Table 5). Most of the increase has been exported because of the stagnation in domestic steel production. Iron ore exports have doubled in quantity in the last 10 years and earned $150 million in FY 1972, becoming one of India's major foreign exchange earners. About 85% of iron ore exports go to Japan and most of the rest goes to East European countries. Conditions in the limestone and manganese industries do not appear to be a constraint on steel production either.

8. While privately-owned TISCO has operated at a profit consistently, the government-owned Hindustan Steel Ltd. has always operated at a loss and has represented the largest drain on the government of all public sector enterprises. IISCO's dropping into the red in 1971 was one of the factors leading to the government's takeover of its management. Throughout the 1960's, the rise in the wholesale price of steel lagged behind increases in raw material prices, squeezing profits (see Table 6). As the shortage of steel became more acute in the last two years, steel prices have risen faster. Value added by the iron and steel industry represents a 12% return on productive capital and a 27% return on gross value

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of output (see Table 7). By Indian standards, wage rates are high -- $711 to $900 per year -- compared to a GNP per capita of less than $110. Wages represent 57% of value added.

9. New Delhi considers steel a "core" industry to be reserved for the public sector. While private ownership is tolerated in the short run, government control is pervasive. In addition to owning four and managing another of the six largest mills, New Delhi controls net investment in the private sector through import licensing. Despite a growing gap between domestic production and demand, private sector plants have not been allowed to expand.

10. The preliminary targets for India's Fifth Five-Year Plan (FY 1974-1978) set steel ingot capacity at an unrealistically high 15.2 million tons for the six integrated steel plants. The increased capacity is to be accomplished exclusively through expansion of the public sector steel mills at Bhilai and Bokaro. Already delays in deliveries from the government-owned Heavy Engineering Corporation (HEC) have pushed back the estimated completion date of the Bhilai expansion to the end of FY 1979. Furthermore, construction delays at Bokaro indicate that only 1.7 million tons of capacity (Stage I) will be fully operating in FY 1978. Bokaro's Stage II, raising capacity to 4.75 million tons, scheduled for completion in December 1976, also depends on

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[illegible] deliveries and will probably be delayed. Thus, capacity of the six major plants will rise from 8.9 million tons in FY 1973 to no more than 10.6 million tons in FY 1978, at least 30% short of the goal.

11. With a 10.6 million ton capacity, the six major mills could produce no more than 9 million tons of steel ingots in FY 1978, which would leave India over 4 million tons short of projected demand. Even if the preliminary production target of 12.8 million tons could be met, India would still need 0.6 million tons of finished steel imports in FY 1978. Other recent events -- the energy crisis and sharp price increases -- necessitated redrafting of the Fifth-Five Year Plan, and targeted steel production may be reduced. With the sharp increase in the costs of steel imports, New Delhi is considering allowing TISCO to expand with government equity participation. Even if TISCO's expansion plans are approved despite scarce investment resources, any TISCO expansion would not be completed during the Fifth Plan.

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Table 1

India: Ingot Steel Production by Manufacturer
(thousand metric tons)

Fiscal Year 1/	TISCO	IISCO	Mysore	Hindustan Steel, Ltd.					Total
				Bhilai	Durgapur	Rourkela	Alloy Steels Plant	Other	
1960	1,622	914	44	402	168	206	--	62	3,418
1961	1,643	934	50	789	462	354	--	53	4,285
1962	1,799	1,002	46	1,060	731	700	--	57	5,395
1963	1,892	1,027	48	1,143	972	800	--	63	5,945
1964	1,956	950	48	1,131	1,006	979	1	67	6,138
1965	1,979	970	69	1,371	1,001	1,065	10	61	6,526
1966	2,001	897	75	1,852	754	943	12	76	6,610
1967	1,933	791	92	1,785	738	924	14	70	6,347
1968	1,816	777	115	1,735	823	1,162	40	38	6,505
1969	1,708	700	132	1,876	818	1,104	66	30	6,432
1970	1,715	627	104	1,940	634	1,038	51	53	6,138
1971	1,707	617	116	1,953	700	823	56	50 est.	6,023 est.
1972	1,690	431	110	2,108	723	1,177	61	50 est.	6,350 est.
1973									6,020 est.
1978 2/	1,800	900	N.A.	3,390	1,440	1,620	N.A.	N.A.	12,770 3/

1. Fiscal year begin 1 April of stated year.
2. Preliminary targets of Fifth Five Year Plan.
3. Includes 3,620,000 tons targeted production from new Bokaro plant.

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Table 2

India: Estimated Steel Ingot Capacity
(thousand metric tons)

	1966	1972	1978 1/
Hindustan Steel Ltd.			
Bhilai	2,154	2,500	4,000
Durgapur	1,016	1,600	1,600
Rourkela	1,000	1,800	1,800
Bokaro	--	--	4,750
Alloy Steel Plant	25	100	N.A.
TISCO	2,000	2,000	2,000
IISCO	1,000	1,000	1,000
Mysore Iron & Steel	90	180	N.A.
Other	100	100	N.A.
TOTAL	7,835	9,280	15,150

1. Preliminary targets for Fifth Five Year Plan.

Table 3

India: Trade in Iron and Steel by Products
(thousand metric tons)

Fiscal Year1/	Imports				Exports				
	Semi-finished and Finished	Tool and Alloy Steels	Other	Total Imports	Iron and Ferro Alloys	Semi-Finished & Finished Steel	Scrap Steel	Other	Total Exports
1966	364	97	35	496	190	294	545	3	1,032
1967	419	84	35	538	614	560	527	16	1,717
1968	374	72	19	465	871	837	507	59	2,274
1969	351	60	12	423	654	805	420	49	1,928
1970	529	133	10	672	601	486	261	43	1,391
1971	1,061	260	26	1,347	225	213	146	7	591
1972 2/	708	184	9	901	290	84	53	2	429

1. Fiscal year begins 1 April of stated year.
2. Nine-month data.

Table 4

India: Coal Production 1/

Fiscal Year 2/	Million Metric Tons		
	Coking	Non-coking	Total
1966	16.6	54.4	71.0
1967	16.1	55.9	72.0
1968	17.2	58.2	75.4
1969	17.6	62.4	80.0
1970	16.3 est.	58.0 est.	74.3
1971	16.1	57.9	74.0
1972	16.0	63.3	79.3
1973	17 est.	57 est.	74 est.
1978 3/	32	103	135
Present Reserves	20,155	60,797	80,952

1. Includes lignite.
2. Fiscal year starts 1 April of stated year.
3. Preliminary target for Fifth Five Year Plan.

NOTE: Coking coal nationalized in October 1971 and non-coking coal naticnalized in January 1973.

Table 5

India: Iron Ore 1/

Million Metric Tons

Year	Production	Exports 2/
1964	21.39	10.57
1965	23.87	12.27
1966	26.73	13.40
1967	25.86	13.73
1968	27.96	15.75
1969	29.56	16.55
1970	31.37	20.43
1971	34.26	20.28
1972	35.04	21.48
1973	35 (est.)	21 (est.)
1978 3/	58	35

1. Includes Goa.
2. Fiscal year beginning 1 April of stated year.
3. Preliminary target for Fifth Five Year Plan.

Table 6

India: Index of Wholesale Prices
1961 = 100

Fiscal Year 1/	Iron & Steel Manufactures	Coal	Pig Iron	Industrial Raw Materials	All Commodities
1962	106	105	104	98	104
1963	108	112	107	100	110
1964	112	116	119	116	122
1965	121	122	132	133	132
1966	126	128	149	158	150
1967	137	148	157	156	167
1968	145	161	170	157	165
1969	151	166	182	180	172
1970	164	168	200	197	181
1971	174	171	200	191	188
1972	198	177	200	204	207
1973 2/	225	190	210	305	255

1. Fiscal year begins 1 April of stated year.
2. Estimated.

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Table 7

India: Position on Iron & Steel Industry in 1965 1/

Number of factories	235
Average number of working days	314
Productive capital	$1,977 million
Fixed	$1,578 million
Working	$399 million
Total employment	173 thousand
Directly employed workers	112 thousand
Total man-hours worked	346 million
Directly employed man-hours	311 million
Total wages & salaries & benefits	$140 million
Wages of directly employed workers	$81 million
Total average annual wage	$811
Directly employed workers average annual wage	$726
Gross value of output	$920 million
Fuel, electricity & lubricants	$104 million
Materials consumed	$413 million
Depreciation	$123 million
Other expenses	$35 million
Value added	$245 million

1. Conversions to dollars made at 4.75 rupees per US dollar which applied in 1965. Current exchange rate is approximately 8 rupees per US dollar.

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